REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2024

French Creek Water System

June 2025

REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

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REGIONAL DISTRICT OF NANAIMO

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1.0 Introduction

The following annual report describes the French Creek Water Service Area and summarizes the water quality and production data from 2024. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, Operator Certification, the Emergency Response & Contingency Plan, and the Cross Connection Control Program.

This report is to be submitted to Island Health by the spring of 2025.

2.0 French Creek Water Service Area

The French Creek Water Service Area was established in 1980 and comprises an area west of Drew Road and south of the Island Highway between the City of Parksville and the Town of Qualicum Beach (the Sandpiper Subdivision). The water source formerly came from a series of groundwater wells located within the neighbourhood. As of 2022, bulk water has been supplied by a direct connection to the Town of Qualicum Beach. The water is chlorinated and stored in one reservoir. There are 238 water service connections in the French Creek Water System. In the event of a water system emergency that disrupts flow from the Qualicum Beach connection, treated drinking water would be immediately trucked-in from a nearby RDN water service area. A map of the French Creek Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells and Bulk Water Connection

Six groundwater production wells are present in the French Creek Water Service Area, although none of them are currently in use as drinking water sources.

Well / Name	Well Depth	In Use	Wellhead Protection	Treated/Untreated with Chlorine
#1	39.6 m	No	Yes	n/a
#2	40.5 m	No	Yes	n/a
#4	40.2 m	No	Yes	n/a
#5	50.3 m	No	Yes	n/a
#6	52.4 m	No	Yes	n/a
#7	39.6 m	No	Yes	n/a

French Creek Well #1 was converted to a monitoring well in 2013 due to low production and high iron levels. Wells #5 and #6 are temporarily not in use due to elevated levels of iron and manganese. Wells #2, 4, and 7 were turned off in 2023 when bulk water was supplied by the Town of Qualicum Beach.

The bulk water connection with the Qualicum Beach supply is located on Sunrise Drive. Water passes through a pressure reducing valve before filling the reservoir. Additional chlorine is added to maintain an appropriate residual amount at the farthest reaches of the system.

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2.2 Reservoirs

One service reservoir (steel construction) is present at 1225 Sunrise Drive, Parksville, B.C. and has a capacity of 364 m^3 (80,000 imperial gallons).

2.3 Distribution System

The water distribution system in the French Creek Water Service Area is summarized in the table below. Fire hydrants (26) are located throughout the water service area.

Watermain Material	Length of mains in service area	Prevalence in service area
Asbestos-concrete:		
150mm or smaller	3.5 km	52%
200mm or larger	0.8 km	12%
PVC:		
150mm or smaller	0.9 km	14%
200mm or larger	1.5 km	22%

Note: 'PVC' is poly-vinylchloride (plastic)

3.0 Water Sampling and Testing Program

Water sampling and testing is carried out weekly in the distribution system. Notably, the chlorine residual levels are tested weekly to ensure the absence of bacterial regrowth in the watermains. Annual potability testing is completed on the distribution system (tap water). Raw well water testing is no longer completed since the wells are on standby, and treated water is provided in bulk from the Town of Qualicum Beach. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli, Temperature, pH, Conductivity, Chlorine residual, Salinity, TDS
Semi-Monthly	BC Centre for Disease Control	Total coliforms, E.Coli
Annual System Water Testing (every Spring)	Bureau Veritas	Complete potability testing of distribution system, including T-Ammonia

4.0 Water Quality - Source Water and Distribution System

Up-to-date water quality test reports and lab data are posted monthly on the RDN website at https://rdn.bc.ca/french-creek . Tables of water quality testing results for the distribution system are provided in Appendix B of this report.

5.0 Water Quality Inquiries and Complaints

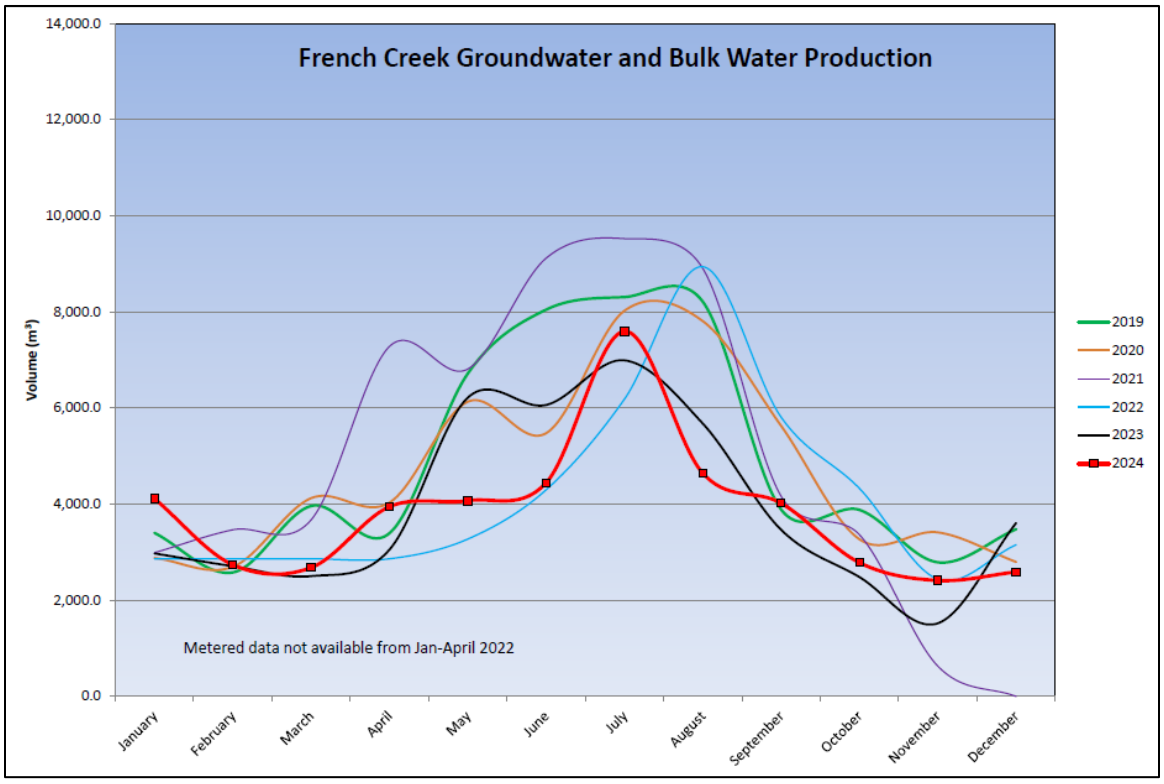
Inquiries received from the French Creek Water Service Area in 2024 were typically related to irrigation leaks, water sourcing and billing, and conservation advice.

A summary of the water system incidents in 2024 is given in the table below.

Activity in 2024	Date(s)	History/Notes
Boil Water Advisories	None	None, ever.
High Turbidity Events	None	None, ever.
Equipment Malfunction	None	None.
Water Main Breaks	None	None.
Pump Failures	None	None.

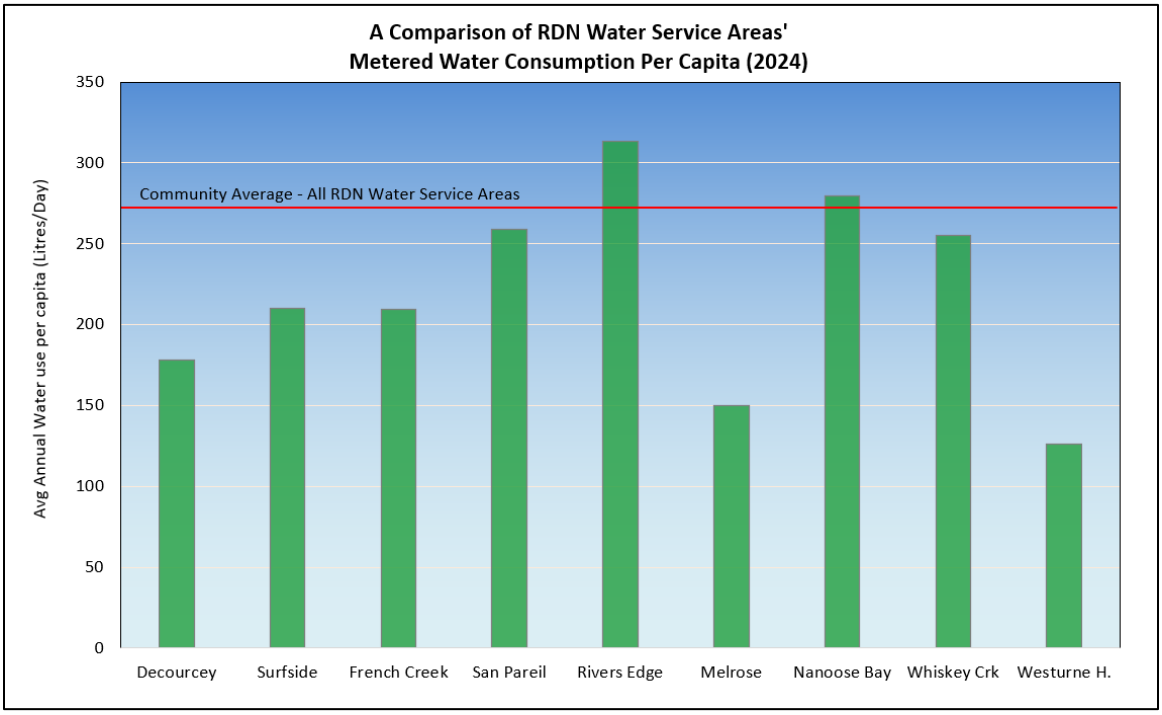
6.0 Groundwater Production and Consumption

The monthly water production in the French Creek water system for the past 6 years is shown in the chart below.



Consumption

In the fall/winter of 2023/2024, the average usage per home in French Creek was 0.40 cubic metres per day (88 imperial gallons). In the summer of 2024, the average water usage was 0.70 cubic metres per day (154 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 209 L/day (based on 2.4 people/household). This consumption is ***22% less*** than the average of all the other RDN water systems of 270 L/day/capita in 2024.



7.0 Maintenance Program

Weekly pump station inspections are carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed once annually in the Spring. Fire hydrants are serviced once per year (either 'A-level' or 'B-level' maintenance) in the Spring following water main flushing. The water storage reservoir is cleaned every 3-4 years, as required. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

Water storage reservoir on Sunrise Drive

8.0 Operator Certification

The Regional District Water & Utility Services staff is comprised of one Manager, one Project Engineer, one Engineering Technologist, one Engineering Technician, one Chief Operator, and seven certified operators. The operators receive ongoing training and certification in:

- ✓ Water Treatment
- ✓ Water Distribution
- ✓ Wastewater Collection
- ✓ Cross Connection Control
- ✓ Asbestos Awareness
- ✓ Chlorine Handling
- ✓ WHMIS (Workplace Hazardous Material Information System)
- ✓ TDG (Transportation of Dangerous Goods
- ✓ Confined Space Awareness
- ✓ Fall Protection
- ✓ First Aid
- ✓ Silica Awareness
- ✓ Cyber Security

9.0 Water Service Area Projects

9.1 2024 Completed Studies & Projects

- Began installing new water meters and cellular read hardware throughout the service area to aid in conservation and leak detection;
- Corresponded with residents regarding water conservation;
- Completed irrigation checks for high water users;
- Counselled residents regarding water leak repairs and bill adjustments;
- Enforced outdoor watering restrictions during summer months;
- Continued the 2020-2030 Water Conservation Plan;
- Followed Cross Connection Control program to reduce backflow prevention risks;
- Completed regular watermain flushing and hydrant maintenance;
- Maintained a high level of water quality; and
- Continued valve maintenance program.

9.2 2025 Proposed Projects & Upgrades

- Complete the installation of new meters and cellular read hardware;
- Advise residents via mailout on account setup and utilisation of smart meter consumption software to aid in residential water conservation and leak detection;
- Hach equipment service and calibrations;
- Begin reservoir replacement project planning;
- Complete irrigation checks for high water users;
- Begin reservoir replacement planning;
- Continue watermain flushing program and hydrant maintenance;
- Continue valve maintenance program;
- Continue the 2020-2030 DWWP Water Conservation Plan; and
- Continue to offer numerous water-saving incentives via rebates.

10.0 Emergency Response & Contingency Plan

The Regional District Emergency Response & Contingency Plan (ERCP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, pump failure, and drought management. The ERCP was reviewed and updated in 2024, and copies are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERCP is also attached to this report in Appendix C.

11.0 Supply Security

The RDN continues to effectively manage water supply in its service areas in response to ongoing demand and the effects of climate change. Most RDN water service areas are unlikely to expand, so growth in demand is not expected. Initiatives that provide resiliency for the groundwater sources that serve residents remain a high priority. Reservoir capacity and redundancy are reviewed with regards to water storage during periods of drought, and water from backup sources is available to be delivered in the case of an emergency. Groundwater quality is regularly tested in all RDN water service areas. The aquifers within the regional district are monitored through the RDN's Drinking Water and Watershed Protection (DWWP) program. The most sustainable way to protect water supply is through demand management (conservation), which is promoted through outreach and stewardship initiatives provided by the RDN's Team WaterSmart , as well as the RDN Water Service Area's Water Conservation Plan 2020-2030. Rebates for well water testing, water smart landscaping, and rainwater harvesting further assist RDN residents to reduce water usage in high demand seasons. A tiered system for water rates (introduced in 2023) helps promote conservation by rewarding low water users with reduced rates and encouraging high water users to seek ways to use less. Additional planning and preparation initiatives will be introduced in the future to support water supply security.

12.0 Cross Connection Control (CCC)

The RDN's Cross Connection Control Program was put in place to protect the public health by reducing the risk of contaminants flowing back into the public water supply. The RDN Manager of Water Services is the designated Cross Connection Control Manager.

The RDN's Cross Connection Control Program addresses cross connection threats through operating policies and procedures, as well as assisting customers with backflow preventer selection, installation, testing, maintenance and reporting. The program receives its authority from *RDN Cross Connection Control Regulation Bylaw No. 1788*, and the *British Columbia Building Code*, Part 7, which requires that potable water be protected from contamination. Additionally, a webpage has been established at https://rdn.bc.ca/cross-connection-control-program to educate RDN water service customers about cross connection hazards, and lists the relevant links to current standards and resources.

Two of the RDN's water system operators are certified backflow assembly testers through the British Columbia Water & Waste Association (BCWWA), and one operator is additionally certified as a Cross Connection Control Inspector.

13.0 Cyber Security

The RDN uses a multi-level approach to cyber-security. Corporate network security is employed via a universal threat management gateway that implements various methods of data security, which includes daily definition updates to block known cyber threats. In addition, all RDN PC's are protected with anti-virus software. RDN water systems are connected to the corporate network via IP-Sec VPN's for remote management by information technology and equipment operators. Future infrastructure upgrades will see RDN water systems located on segregated networks to limit the vulnerability from cybersecurity threats. All RDN employees are required to regularly complete extensive training on cyber security awareness.

14.0 Closing

An annual report for 2025 will be prepared and submitted to Island Health in the Spring of 2026. Annual reports are also available on the RDN website: https://rdn.bc.ca/french-creek.

French Creek Pumphouse and Reservoir Site

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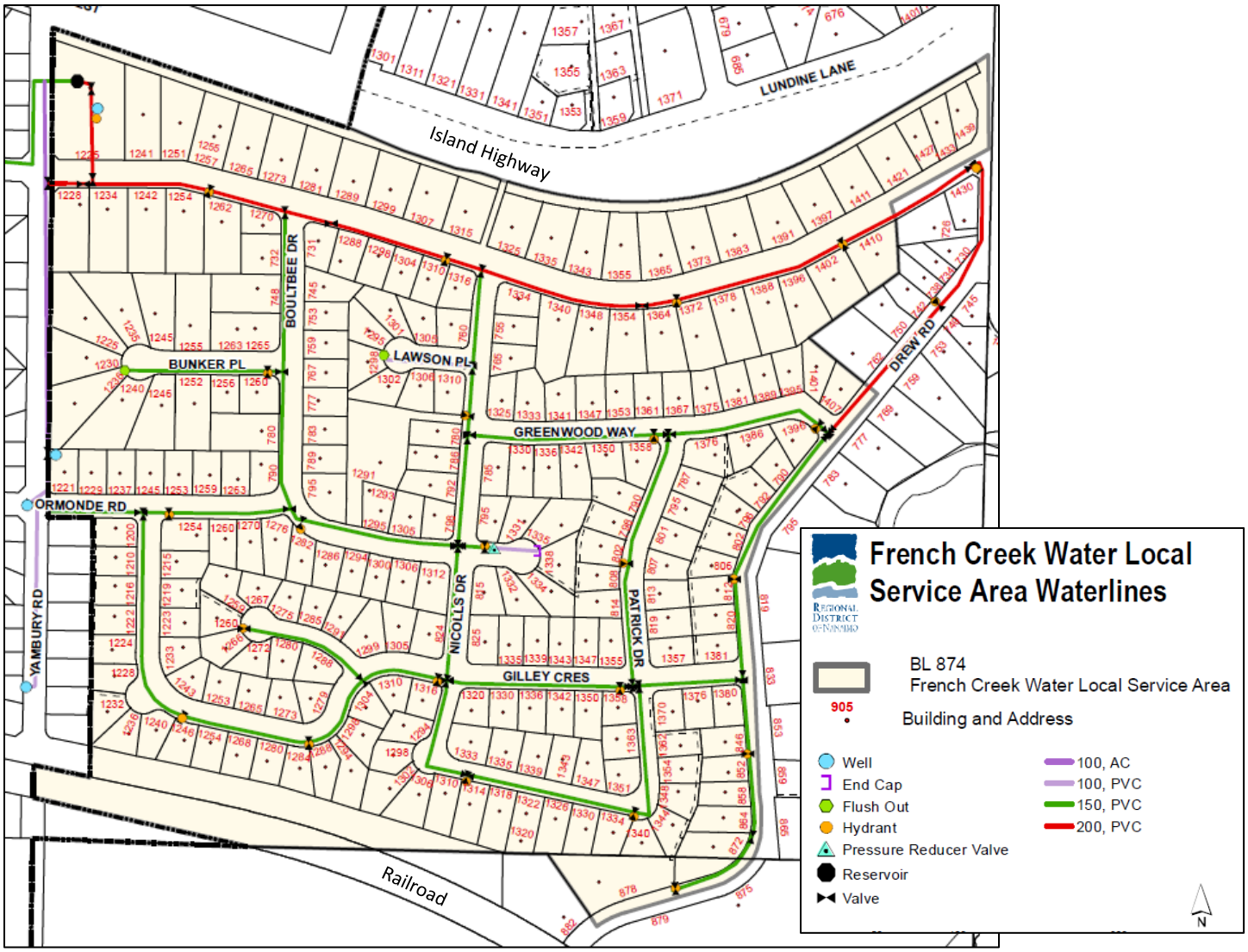
APPENDIX A

MAP OF FRENCH CREEK WATER SERVICE AREA



FRENCH CREEK WATER SERVICE AREA

Facility Location: Parksville

Facility Information: Facility Type: 301-10,000 connections

Facility Sampling History:

Site Name	Date Collected	Total Coliform	Total E. Coli
1228 Sunrise in ground sampling port at water meter	3-Jan-2024	LT1	LT1
1381 Gilley Crescent Sample Port	24-Jan-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	6-Feb-2024	LT1	LT1
1381 Gilley Crescent Sample Port	14-Feb-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	4-Mar-2024	LT1	LT1
1381 Gilley Crescent Sample Port	19-Mar-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	26-Mar-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	9-Apr-2024	LT1	LT1
1381 Gilley Crescent Sample Port	16-Apr-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	8-May-2024	LT1	LT1
1381 Gilley Crescent Sample Port	14-May-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	5-Jun-2024	LT1	LT1
1381 Gilley Crescent Sample Port	17-Jun-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	2-Jul-2024	LT1	LT1
1381 Gilley Crescent Sample Port	9-Jul-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	6-Aug-2024	LT1	LT1
1381 Gilley Crescent Sample Port	13-Aug-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	4-Sep-2024	LT1	LT1
1381 Gilley Crescent Sample Port	11-Sep-2024	LT1	LT1
1381 Gilley Crescent Sample Port	9-Oct-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	16-Oct-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	6-Nov-2024	LT1	LT1
1381 Gilley Crescent Sample Port	25-Nov-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	26-Nov-2024	LT1	LT1
1228 Sunrise in ground sampling port at water meter	4-Dec-2024	LT1	LT1
1381 Gilley Crescent Sample Port	9-Dec-2024	QRWRT	QRWRT

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Interpreting Sample Reports

At Island Health, the results of drinking water sampling are reported using the following coding system:

- LT1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present
- QRWRT – Sample exceeded 30 hours from time of collection, results may not be valid. No written report will be issued by Island Health, and only a qualitative result will be reported by telephone when test is completed.